Attachment 2c

Question 2c	Total
Total Number of Switches	520
Total Number of Lines Served	8,124,901
Average Lines Per Switch	15,625

Attachment 2d

Question 2d

Distribution Fill	
Total Lines	9,485,994
Distribution Pairs	18,342,800
Actual Utilization	52%

Loop Length Distribution	
Loop Category	**Number of Households**
0 <= 5Kft	340,065
5Kft <= 10Kft	1,181,341
10Kft <= 15Kft	1,322,957
15Kft <= 20Kft	948,948
20Kft <= 25Kft	436,180
25Kft <= 30Kft	230,286
30Kft <= 40Kft	198,071
40Kft <= 50Kft	96,730
50Kft <= 60Kft	63,123
60Kft <=70Kft	34,967
70Kft <= 80Kft	13,797
80Kft <= 90Kft	8,445
90Kft <= 100Kft	10,175
100Kft <=150Kft	15,429
150Kft <= 200Kft	2,746
200Ktf+	690
Total Households	4,903,950
	0
Minimum Loop Length	849
Maximum Loop Length	265,295
Median Loop Length	12,513

Attachment 2e

Question 2e	Total
Total Lines (Res+Bus+Pub+Sp)	9,485,994
Total Lines Served by DLC	5,309,940
Investment in DLC	$934,782,621
Pct. Investment DLC to Total Ckt.	90%

DLC electronics	$ 18,049,228	$126,676,641	$91,562,006	$32,051,815	$253,825,289	$412,617,642	$934,782,621
total DLC lines	58,828	695,422	520,627	180,758	1,439,737	2,414,569	5,309,940

Question 2i

	Density Range (Lines/Sq. Mi.)						
	0 - 5	5 - 200	200 - 650	650 - 850	850 - 2550	> 2550	Total
Number of Households	41,374	532,038	444,904	172,255	1,468,389	2,244,990	4,903,950
Agg. Support at $20/hh/mo	$ 36,431,557	$81,664,187	$ -	$ -	$ -	$ -	$118,095,744
Agg. Support at $30/hh/mo	$ 31,466,677	$17,819,627	$ -	$ -	$ -	$ -	$ 49,286,304
Agg. Support at $40/hh/mo	$ 26,501,797	$ -	$ -	$ -	$ -	$ -	$ 26,501,797

Service Cost Distribution	
Cost Category	Number of Households
$0<=$ 5	859,108
$5<=$10	1,501,166
$10<=$15	859,612
$15<=$20	510,305
$20<=$25	302,606
$25<=$30	139,256
$30<=$35	120,912
$35<=$40	93,347
$40<=$45	78,376
$45<=$50	65,891
$50<=$55	43,631
$55<=$60	53,019
$60<=$65	28,619
$65<=$70	33,260
$70<=$75	29,238
$75<=$100	99,472
$100<=$150	60,043
$150<=$200	8,173
$200<=$250	5,996
$250<=$300	3,141
$300<=$500	7,966
$500<=$1000	813
$1000+	0

Attachment 5A

Documentation of the Performance Improved Run Time Implementation of the Hatfield Model, Version 2.2, Release 2

- **User Guide**
- **Technical Description**
- **Data Dictionary**

User Guide

1. OVERVIEW AND METHODOLOGY

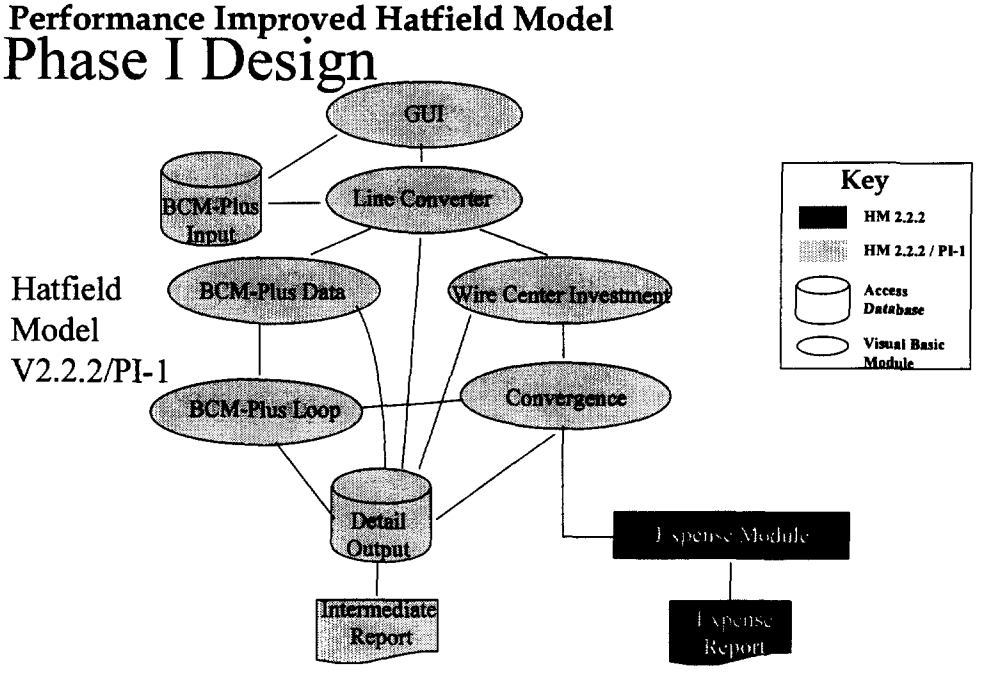
1.1 Introduction

This guide provides a brief overview of the Performance Improved Hatfield Model as well as detailed instructions on how to install and use the application. For further detail on how the new application platform was incorporated, refer to HM2.2.2/PI-1 Technical Description.

1.2 Model Overview

The Performance Improved Hatfield Model (HM2.2.2/PI-1) provides functionality identical to that of the Hatfield Model Version 2.2 Release 2 (HM2.2.2). The HM2.2.2/PI-1 transfers the functionality of HM2.2.2 from Microsoft Excel to Microsoft Access and Visual Basic in order to significantly improve performance. The calculations and results are exactly the same as HM2.2.2 but are achieved through a different technical platform. The new technical platform for the model allows the model to run on a lower-end machine with improved performance, thus making the model accessible to a larger audience.

The design for HM2.2.2/PI-1 parallels that of HM2.2.2. All calculations prior to the Expense Module are accomplished with Microsoft Access and Visual Basic, rather than with Excel, but identical logic is used. The Expense Module, taken intact from HM2.2.2, performs the final calculations and produces the report in Excel.



2. INSTALLATION

The following is a list of the hardware and software recommended to run HM2.2.2/PI-1. Next to each item is a minimum requirement that must be met for the application to execute.

Recommended:	**Required:**
• 120 MHz Pentium	90 MHz Pentium
• 150 Meg Free Space on Hard Drive	60 Meg Free Space
• 32 Meg RAM	8 Meg RAM
• Windows NT 3.5.1 or Windows 95	Windows 95
• Microsoft Access 7.0	Microsoft Access 7.0
• Microsoft Excel 7.0	Microsoft Excel 7.0

The performance of the application will vary greatly depending on whether the required or recommended specifications are met. While the application will run with the required hardware and software listed above, the recommended specifications will lead to significantly improved performance.

Installation Procedure

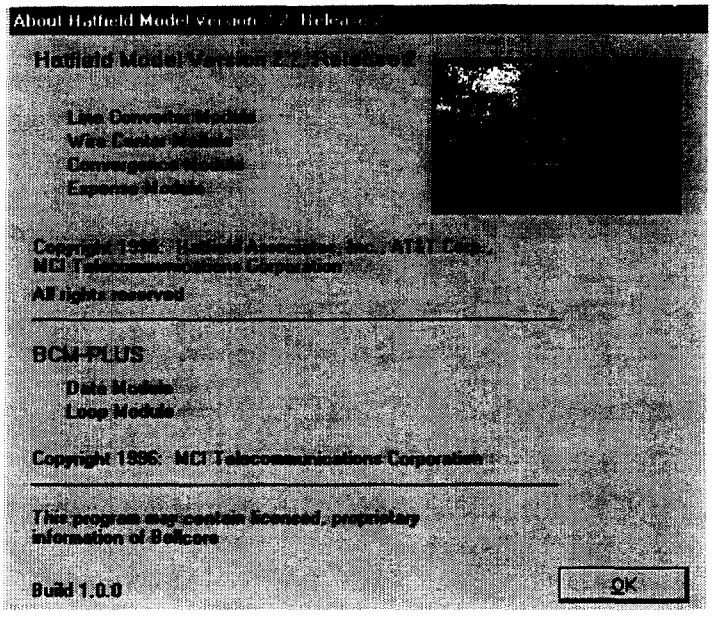
To install the application on a machine with the above specifications:

1. Insert the CD ROM into the appropriate drive.
2. Run the setup program from Windows Explorer or File Manager by double-clicking on the setup.exe file located in the \AMS-PI\PROGRAM directory on the CD ROM or from the main Windows menu by selecting **File**, **Run** and entering the appropriate path to the setup.exe file on the CD ROM. The install process will automatically install the application, the database and the Expense Module in the correct location and will create a Hatfield application icon. The application should always be run from a local drive and not directly off the network.
3. Double click in the Hatfield icon to launch the application.

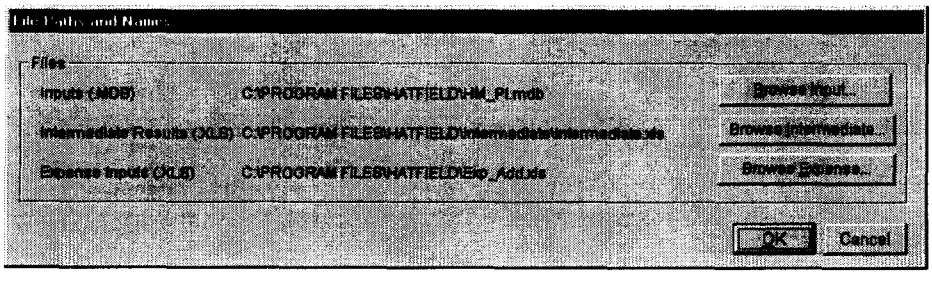
3. OPERATION

3.1 Starting the Application

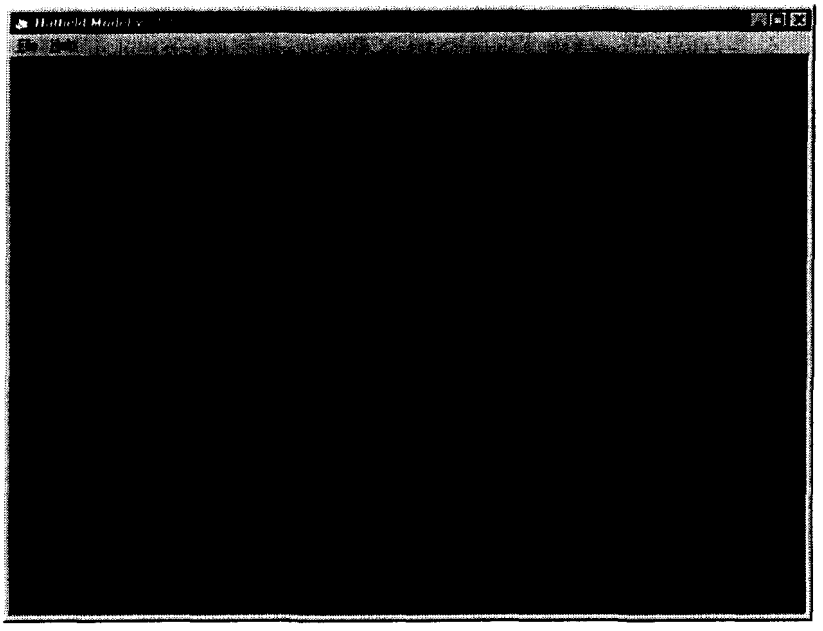
When the application is first launched, a window displaying relevant copyright information is displayed. To close this window and proceed with the application, click on **OK**.



After closing the Copyright Notice window, the following window will appear if the application cannot find the appropriate Inputs database. If this window appears, point to the appropriate database by clicking on **Browse Input** to select the correct database. The user may also change the paths for the intermediate results and the expense inputs at this time. After selecting the correct file paths, click on **OK** to close the window. In most cases, this window will not appear at this time.



Once the file paths and names are set up correctly, only the application's main window is open.



3.2 Reproducing a Standard Excel Run (default user input)

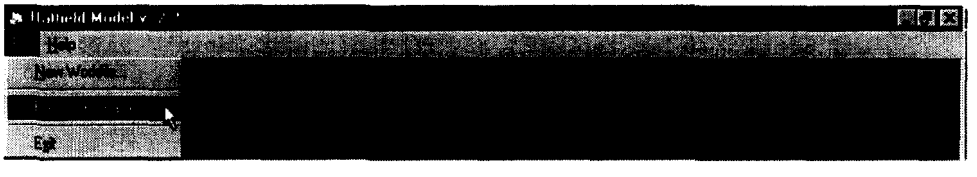
A standard run can be divided into three steps:

1. Setting up a Run (**File, Set up Path & Filename...**)
2. Selecting a State (**File, New Workfile...**)
3. Running the Application (**File, Run...**)

These three steps are described in detail below.

3.2.1 Setting Up A Standard Run

When the application's main window is initially loaded, two menu items are visible: **File** and **Help**. To change the path and filenames for the input database, the expense input database, or the intermediate results, select **File**, **Set Up Path & Filename...**. Note that this may have been accomplished previously if the window appeared automatically as described above.



If this option is selected, the user will be prompted to specify an exact path and filename for the following:

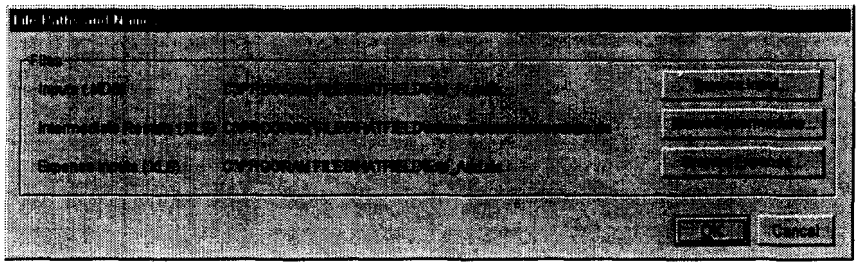
1. The location from which the input data will be taken. Once this path is established, it will be maintained for subsequent runs.

2. The location to which the intermediate results will be saved. The intermediate output from this run will be saved to the specified directory. Three files will be saved, each with a predetermined 3-4 character suffix added to the filename specified here. (See section 4.)

   Note: To avoid writing over the results from a previous run, create a naming convention that specifies state and date.

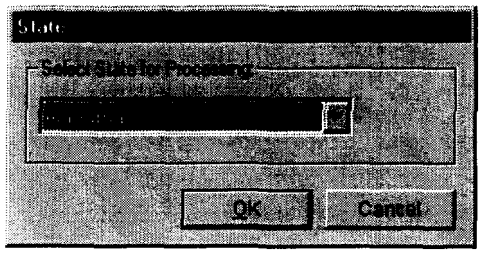
3. The location from which the expense inputs will be taken.

Click on **OK** to continue.



3.2.2 Selecting a State

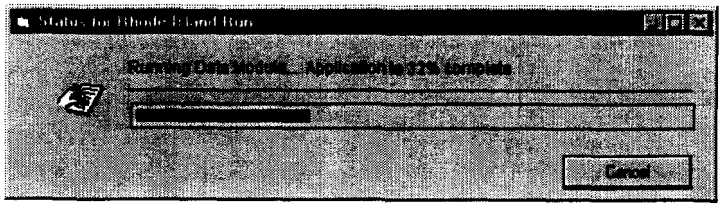
To begin a particular run, select the **File** menu option and choose **New Workfile** to select a state for which the application will run. Select a state from the dropdown menu or move through the list by typing the first letter of the state name.



Then click **OK** and all of the default values for that state will be copied into the user inputs.

3.2.3 Running The Application for a Standard Run

Select **File**, **Run...** to run the application. A status bar will indicate when the run is complete.



Note: Go to section 3.4 to continue with instructions on how to view and save the results of this standard run.

3.3 Performing a Customized Run (Changing User Inputs)

A customized run can be divided into four steps:

1.	Setting up a Run	(**File, Set up Path & Filename...**)
2.	Selecting a State	(**File, New Workfile...**)
3.	Changing User Input Values	(**Inputs,** <appropriate input group>)
4.	Running the Application	(**File, Run...**)

These four steps are described in detail below.

3.3.1 Setting Up A Run

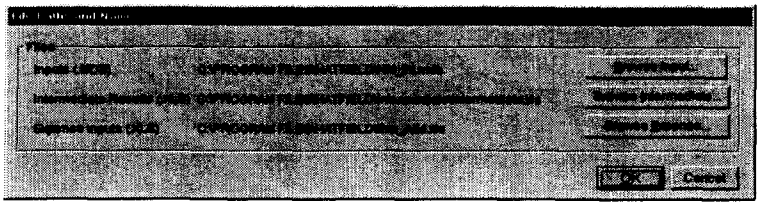
When the application's main window is initially loaded, two menu items are visible: **File** and **Help**. To change the path and filenames for the input database, the expense input database, or the intermediate results, select **File**, **Set Up Path & Filename....** Note that this may have been accomplished previously if the window appeared automatically as described above.

If this option is selected, the user will be prompted to specify an exact path and filename for the following:

1. The location from which the input data will be taken. Once this path is established, it will be maintained for subsequent runs.
2. The location to which the intermediate results will be saved. The intermediate output from this run will be saved to the specified directory. Three files will be saved, each with a predetermined 3-4 character suffix added to the filename specified here. (See section 4.)

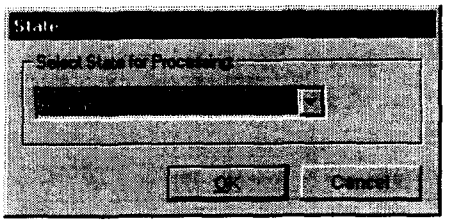
   Note: To avoid writing over the results from a previous run, create a naming convention that specifies state and date.
3. The location from which the expense inputs will be taken.

Click on **OK** to continue.



3.3.2 Selecting a State

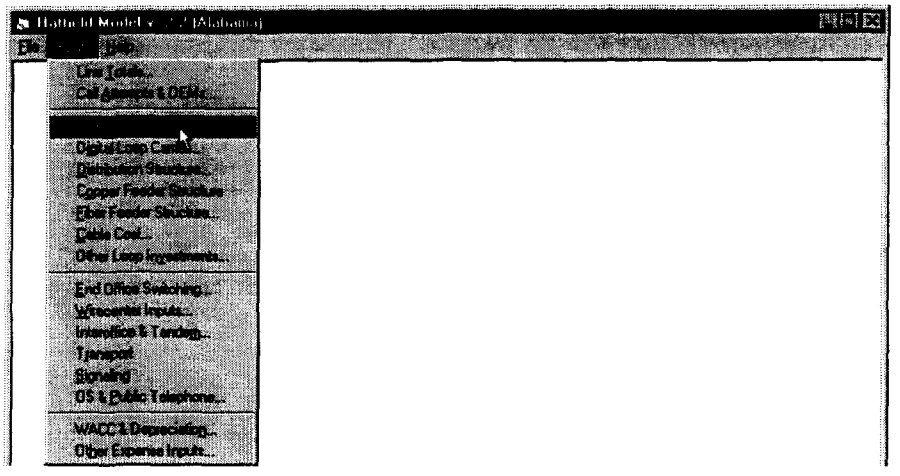
To begin a particular run, select the **File** menu option and choose **New Workfile** to select a state for which the application will run. Select a state from the dropdown menu or move through the list by typing the first letter of the state name.



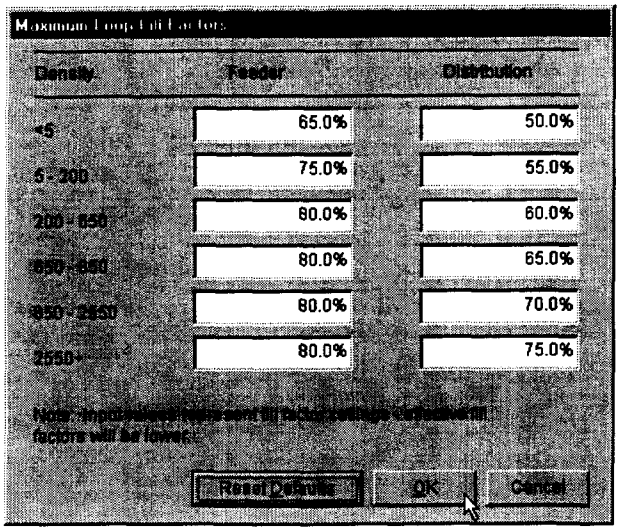
Then click **OK** and all of the default values for that state will be copied into the user inputs and the **Inputs** menu item is added to the main application window.

3.3.3 Changing User Input Values

Select this menu option and choose any inputs to be modified. Note that the last two options on the menu list contain input values for the Expense Module and can be changed at this time or at the end of the run within the expense module.



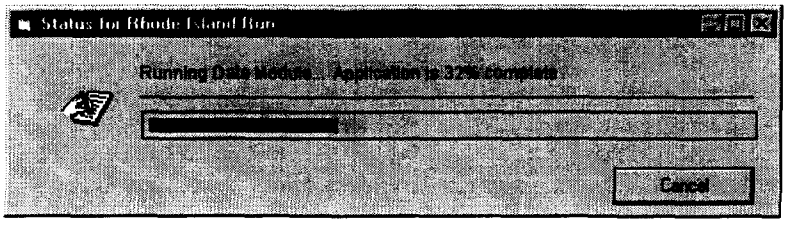
When a particular input type is chosen, a window will open displaying the default values for the selected state. The user may change the default values and click **OK** to save changes to the database. **Cancel** closes the window without saving the changes. **Reset Defaults** returns the default values for the selected state. (See Appendix A for a complete set of the user input GUI screens.)



In some cases, a set of user input values must sum to one (e.g., percentages.) In these cases, some of the input values may be disabled and will change automatically based on what the user enters for the other, related values. If the user attempts to enter values that sum to greater than one, an error message appears.

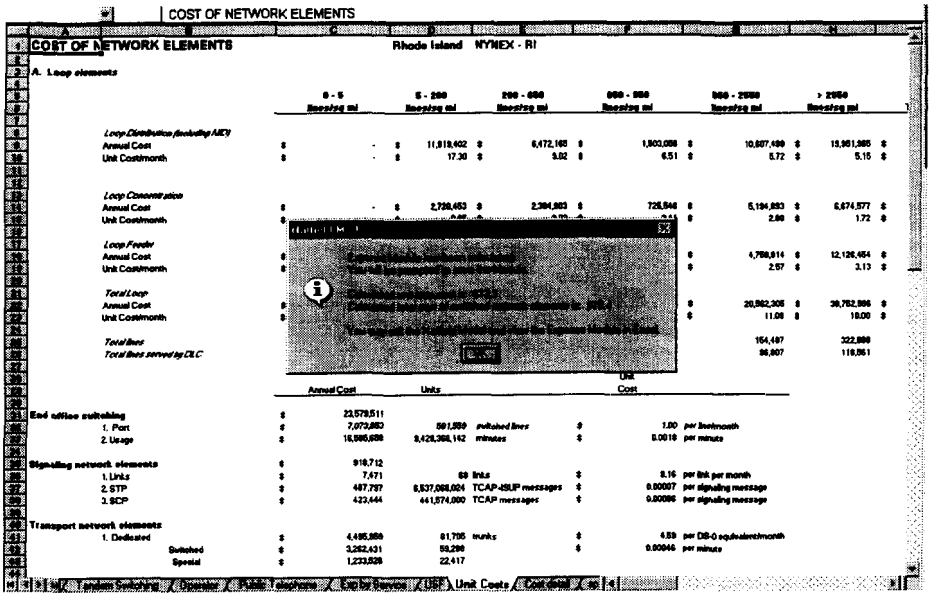
3.3.4 Running The Application

Select **File**, **Run...** to run the application. A status bar will indicate when the run is complete.



3.4 Viewing and Saving Results of a Run

When either a standard or customized run is complete, the application will automatically open Microsoft Excel and the Hatfield Expense Module. The expense spreadsheets will open and a message box will appear containing the final results of the run.



Click **OK** to close the result box. A message will appear asking if the user wants to save the expense module spreadsheets. Click **OK** to save. The spreadsheets may also be saved later through Excel.

The Expense Module contains all financial information for the run. Through the Excel menus, the user can view the Expense Module worksheets for more details. The user may change the selected input variables in the "Inputs" worksheet and press F9 to recalculate the module. A new results box will not appear but the new results will appear in the Expense worksheets.

In order to return to the main GUI application, minimize or close Excel. This can be done in order to view or save the intermediate results of the run.

Once back in the main application, select **File**, **Save Intermediate Results...** to save the intermediate results. When this option is selected, the intermediate results will be saved in the location previously indicated in the Set Up Path and Filename window. If the user attempts to launch a second run without saving the intermediate results of the first run, a message will appear warning that the intermediate results of the first run will be overwritten. The user will then have an opportunity to save those results. Note that saving the intermediate results for larger states may take longer.

To view the intermediate results without saving them, select **File, Display Intermediate Results**, and then select from **User-Defined Values**, **WC Data** or **CBG Data**. Selecting one of these menu items will display the corresponding intermediate results within the user interface for view only.

4. INTERMEDIATE RESULTS OUTPUT

If the user chooses to save the intermediate results of a particular run (see 3. Operation above) those results will be saved as three files with the following suffixes:

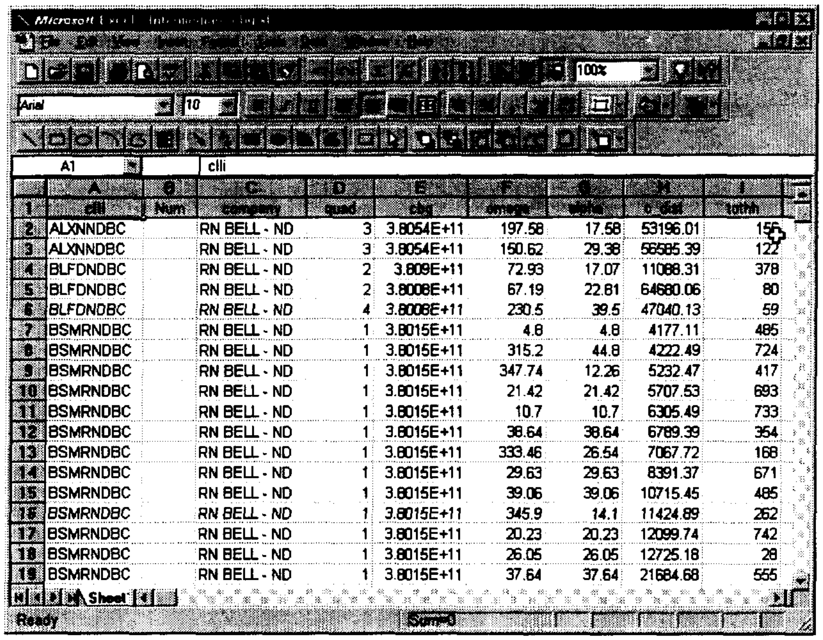
- _cbg.xls = census block data
- _wc.xls = wire center data
- _ui.xls = user input data

These files will be saved in the location specified by the user at the beginning of the run in the Path and Filenames Window. Each will have the user-specified filename, with the appropriate suffix added.

These intermediate result files are Excel spreadsheet files. An example view of each file is presented below.

1. CBG Intermediate Results:

   This spreadsheet lists values for 154 variables. Each column represents a variable while the number of rows in the spreadsheet varies depending on the state.

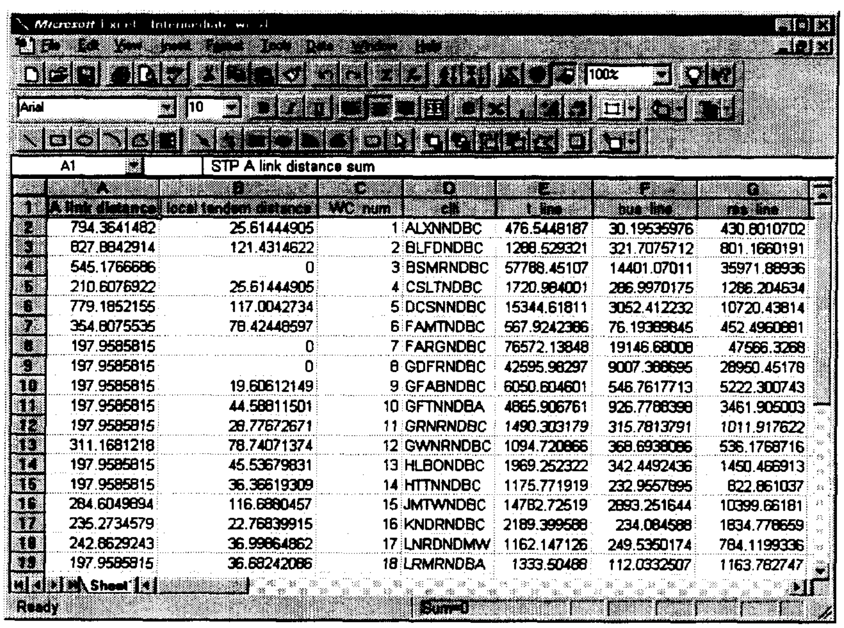


A1: clli

	A	B	C	D	E	F	G	H	I
1	clli	Num	company	quad	cbg	[illegible]	[illegible]	[illegible]	[illegible]
2	ALXNNDBC		RN BELL - ND	3	3.8054E+11	197.58	17.58	53196.01	156
3	ALXNNDBC		RN BELL - ND	3	3.8054E+11	150.62	29.38	56585.39	122
4	BLFDNDBC		RN BELL - ND	2	3.809E+11	72.93	17.07	11088.31	378
5	BLFDNDBC		RN BELL - ND	2	3.8008E+11	67.19	22.81	64680.06	80
6	BLFDNDBC		RN BELL - ND	4	3.8008E+11	230.5	39.5	47040.13	59
7	BSMRNDBC		RN BELL - ND	1	3.8015E+11	4.8	4.8	4177.11	485
8	BSMRNDBC		RN BELL - ND	1	3.8015E+11	315.2	44.8	4222.49	724
9	BSMRNDBC		RN BELL - ND	1	3.8015E+11	347.74	12.26	5232.47	417
10	BSMRNDBC		RN BELL - ND	1	3.8015E+11	21.42	21.42	5707.53	693
11	BSMRNDBC		RN BELL - ND	1	3.8015E+11	10.7	10.7	6305.49	733
12	BSMRNDBC		RN BELL - ND	1	3.8015E+11	38.64	38.64	6789.39	354
13	BSMRNDBC		RN BELL - ND	1	3.8015E+11	333.46	26.54	7067.72	168
14	BSMRNDBC		RN BELL - ND	1	3.8015E+11	29.63	29.63	8391.37	671
15	BSMRNDBC		RN BELL - ND	1	3.8015E+11	39.06	39.06	10715.45	485
16	BSMRNDBC		RN BELL - ND	1	3.8015E+11	345.9	14.1	11424.89	262
17	BSMRNDBC		RN BELL - ND	1	3.8015E+11	20.23	20.23	12099.74	742
18	BSMRNDBC		RN BELL - ND	1	3.8015E+11	26.05	26.05	12725.18	28
19	BSMRNDBC		RN BELL - ND	1	3.8015E+11	37.64	37.64	21684.68	555

2. Wire Center Results:

   This spreadsheet lists values for 41 variables. Each column represents a variable while the number of rows in the spreadsheet varies depending on the state.

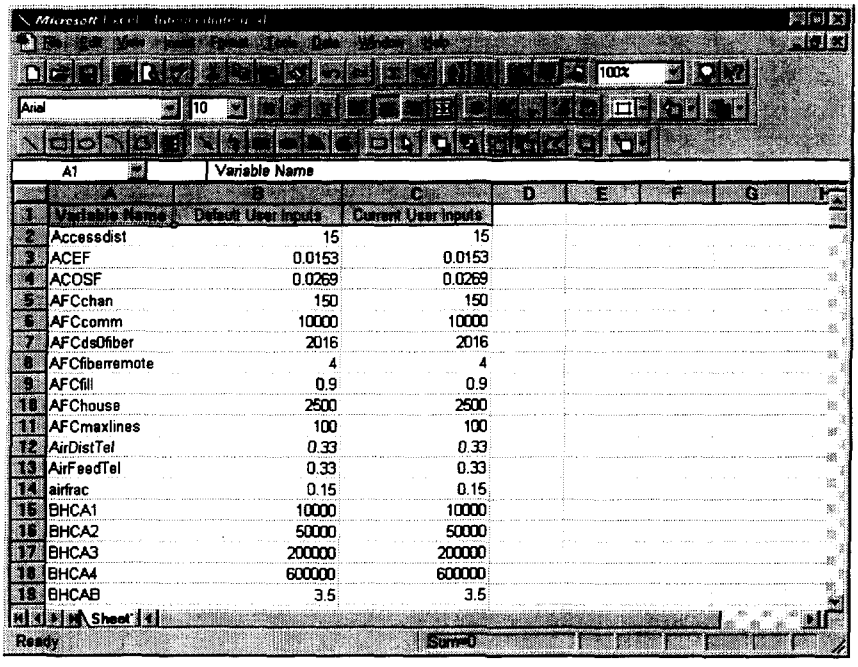


A1: STP A link distance sum

	A	B	C	D	E	F	G
1	A link distance	local tandem distance	WC num	clli	t line	bus line	res line
2	794.3641482	25.61444905	1	ALXNNDBC	476.5448187	30.19535976	430.8010702
3	827.8842914	121.4314622	2	BLFDNDBC	1288.529321	321.7075712	801.1660191
4	545.1766686	0	3	BSMRNDBC	57788.45107	14401.07011	35971.88936
5	210.6076922	25.61444905	4	CSLTNDBC	1720.984001	286.9970175	1286.204634
6	779.1852155	117.0042734	5	DCSNNDBC	15344.61811	3052.412232	10720.43814
7	354.8075535	78.42448597	6	FAMTNDBC	567.9242386	76.19389845	452.4960881
8	197.9585815	0	7	FARGNDBC	76572.13848	19146.68008	47566.3268
9	197.9585815	0	8	GDFRNDBC	42595.98297	9007.388695	28950.45178
10	197.9585815	19.60612149	9	GFABNDBC	6050.604601	546.7617713	5222.300743
11	197.9585815	44.58811501	10	GFTNNDBA	4865.906761	926.7788398	3461.905003
12	197.9585815	28.77672671	11	GRNRNDBC	1490.303179	315.7813791	1011.917622
13	311.1681218	78.74071374	12	GWNRNDBC	1094.720866	368.6938086	536.1768716
14	197.9585815	45.53679831	13	HLBONDBC	1969.252322	342.4492436	1450.466913
15	197.9585815	36.36619309	14	HTTNNDBC	1175.771919	232.9557895	822.861037
16	284.6049894	116.6880457	15	JMTWNDBC	14782.72519	2893.251644	10399.66181
17	235.2734579	22.76839915	16	KNDRNDBC	2189.399588	234.084588	1834.778659
18	242.8629243	36.99864862	17	LNRDNDMW	1162.147126	249.5350174	784.1199336
19	197.9585815	36.88242086	18	LRMRNDBA	1333.50488	112.0332507	1163.782747

3. User Input Results:

   This spreadsheet lists 404 User Input variables with the default values and the current user input for each variable for the particular run.

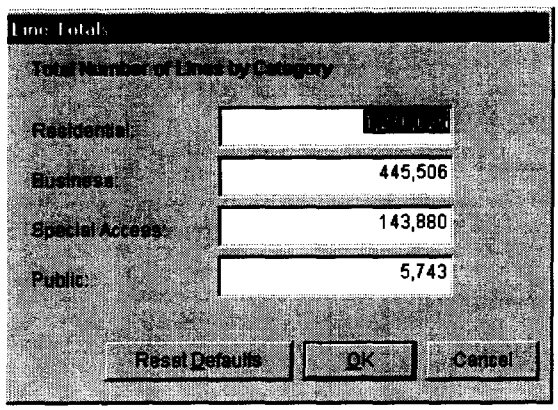


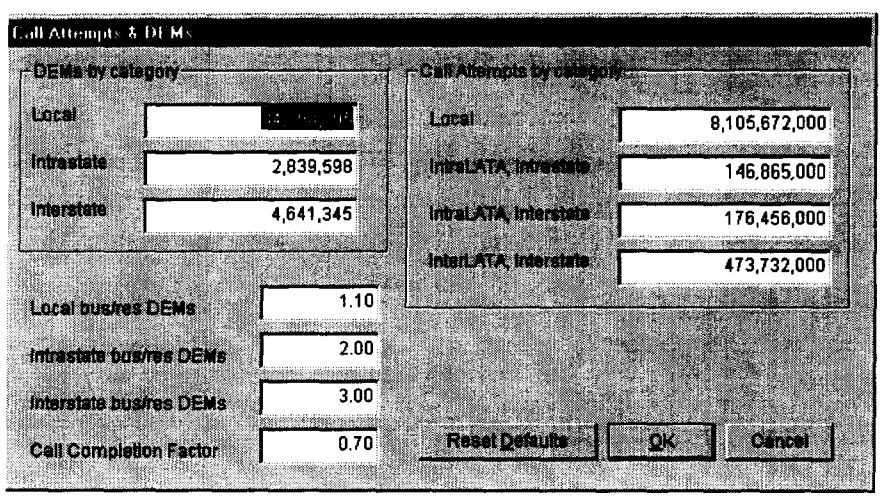
Variable Name	Default User Inputs	Current User Inputs
Accessdist	15	15
ACEF	0.0153	0.0153
ACOSF	0.0269	0.0269
AFCchan	150	150
AFCcomm	10000	10000
AFCdsOfiber	2016	2016
AFCfiberremote	4	4
AFCfill	0.9	0.9
AFChouse	2500	2500
AFCmaxlines	100	100
AirDistTel	0.33	0.33
AirFeedTel	0.33	0.33
airfrac	0.15	0.15
BHCA1	10000	10000
BHCA2	50000	50000
BHCA3	200000	200000
BHCA4	600000	600000
BHCAB	3.5	3.5

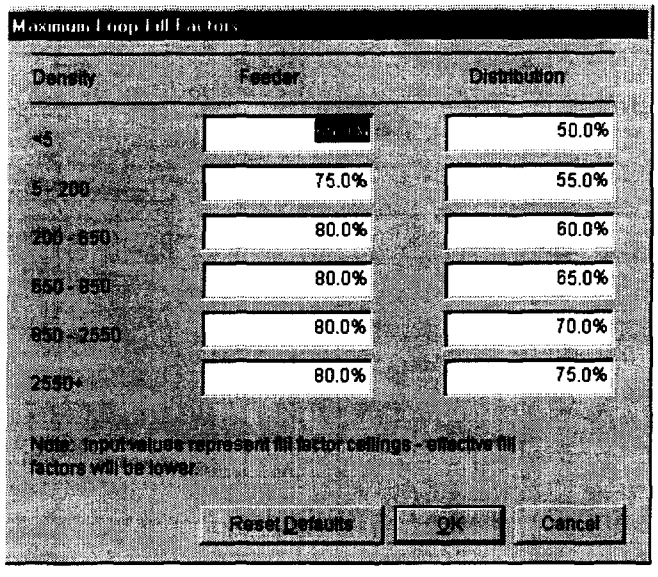
The final results will appear in a message box on the screen and the user can view the Excel spreadsheets and the intermediate results for more detail. For a complete list of the variables and formulas used in the model's calculations, reference the data dictionary in the HM2.2.2 Technical Description. For further help working with the Expense Module, saving results, or printing reports, see the Microsoft Excel User's Guide.

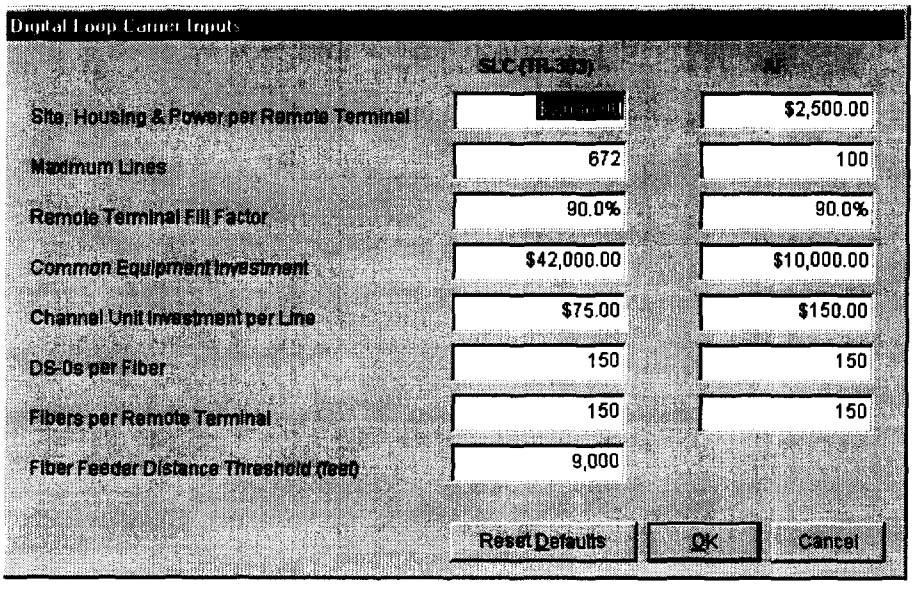
Appendix A: User Input GUIs

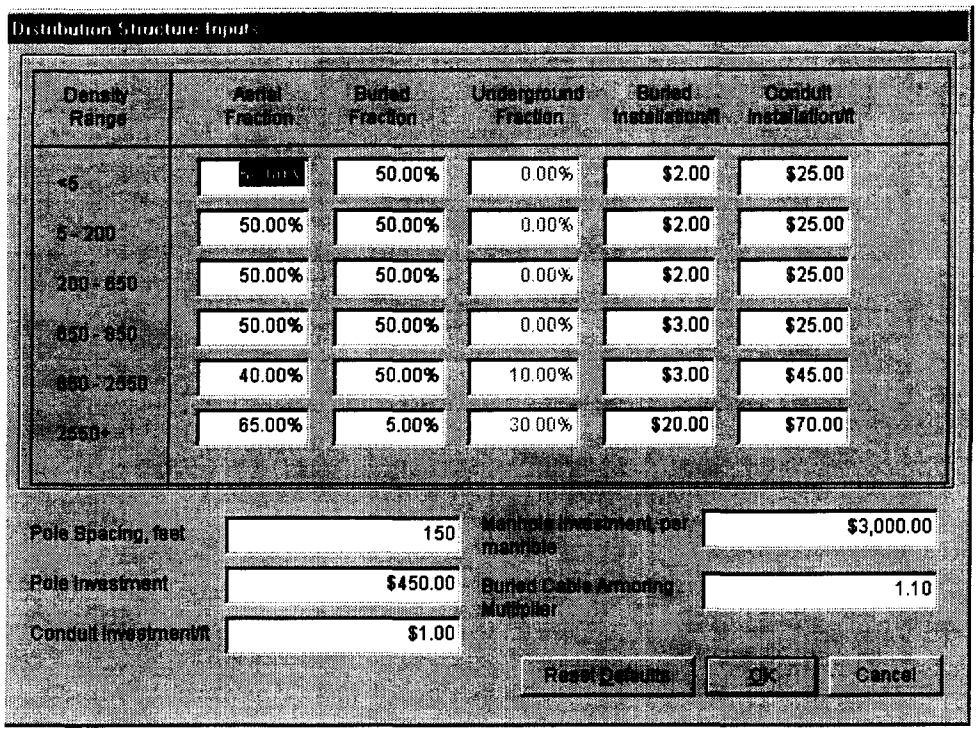
This appendix includes screen shots of all of the GUIs used to view the default user input values or to modify the input values for a particular run.

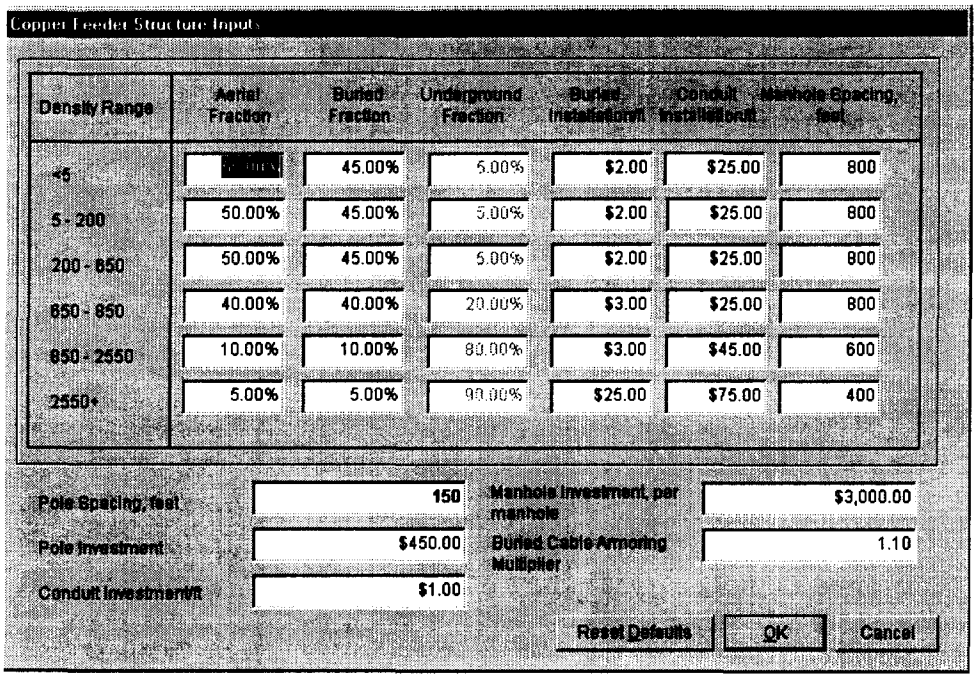


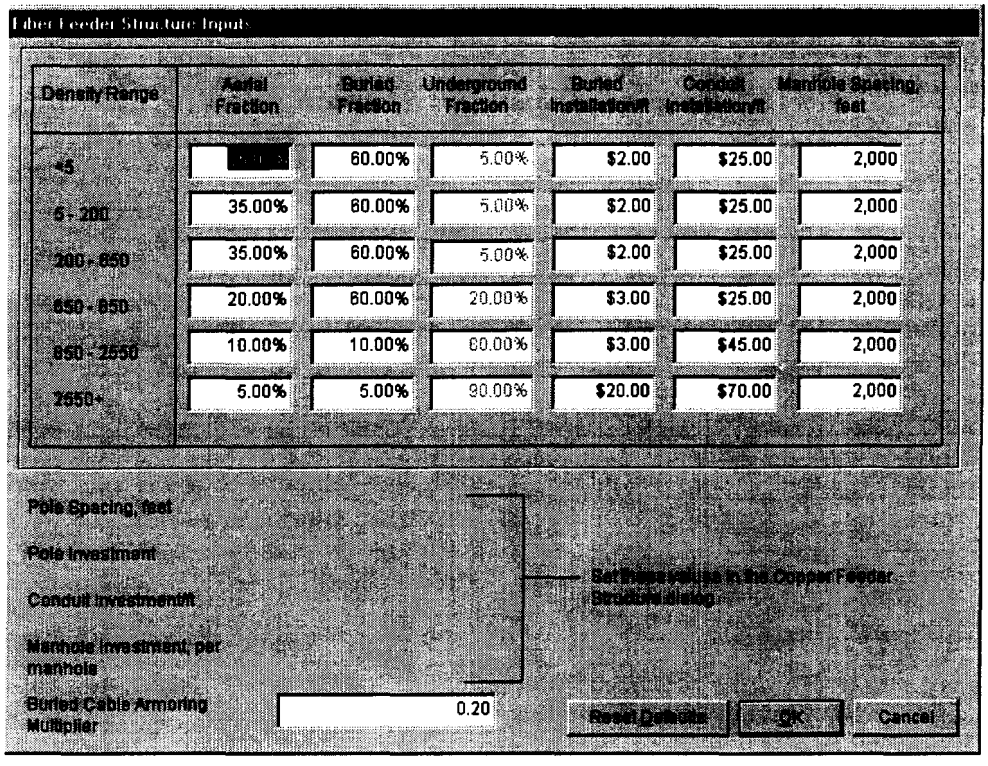


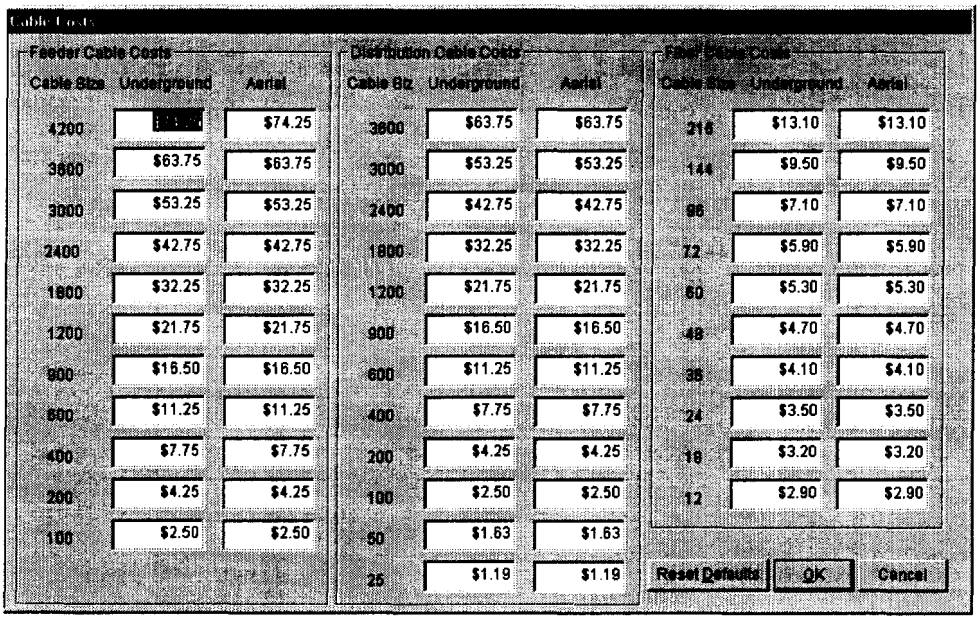

Maximum Loop Fill Factors
Density
Feeder
Distribution
<5
50.0%
5 - 200
75.0%
55.0%
200 - 650
80.0%
60.0%
650 - 850
80.0%
65.0%
850 - 2550
80.0%
70.0%
2550+
80.0%
75.0%
Note: input values represent fill factor ceilings - effective fill factors will be lower.
Reset Defaults
OK
Cancel

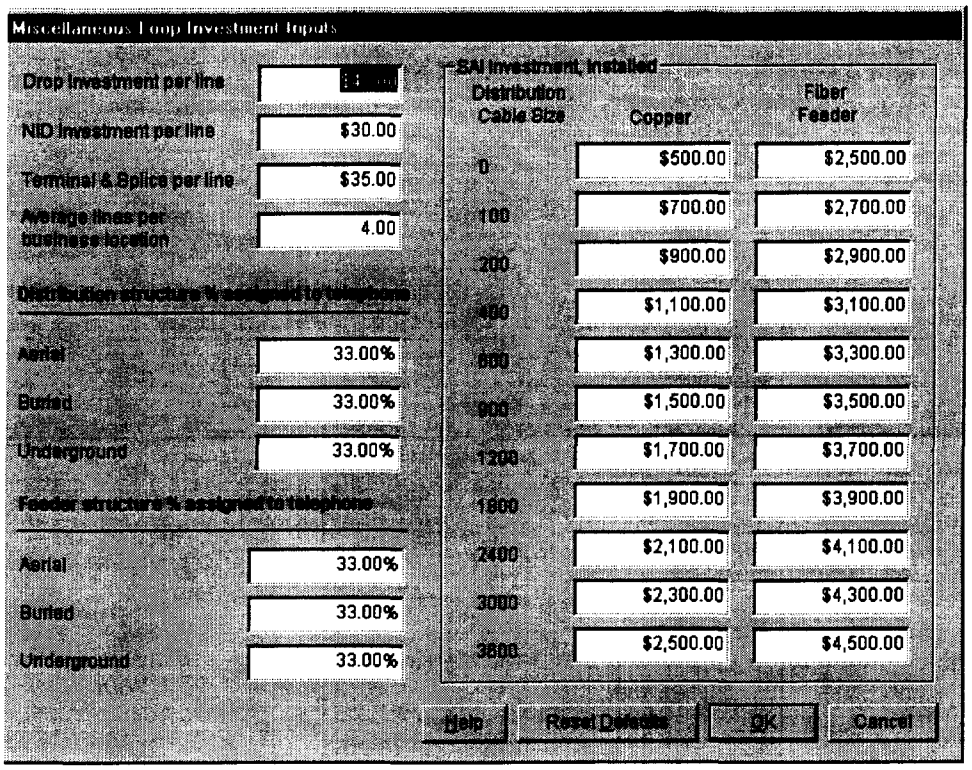

Digital Loop Carrier Inputs
SLC (IDLC)
AFC
Site, Housing & Power per Remote Terminal
$2,500.00
Maximum Lines
672
100
Remote Terminal Fill Factor
90.0%
90.0%
Common Equipment Investment
$42,000.00
$10,000.00
Channel Unit Investment per Line
$75.00
$150.00
DS-0s per Fiber
150
150
Fibers per Remote Terminal
150
150
Fiber Feeder Distance Threshold (feet)
9,000
Reset Defaults
OK
Cancel

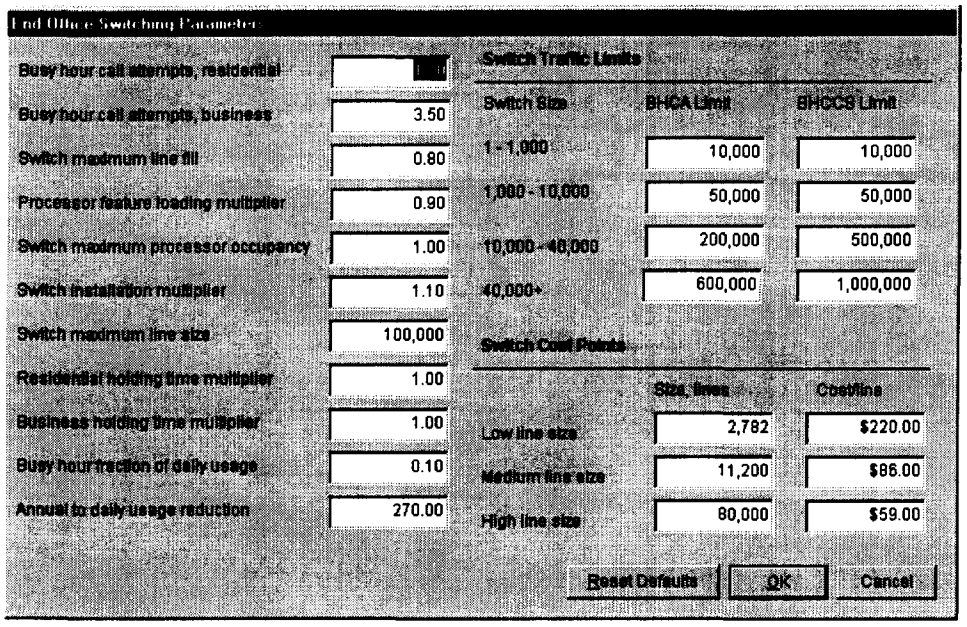

Distribution Structure Inputs
Density Range
Aerial Fraction
Buried Fraction
Underground Fraction
Buried Installation/ft
Conduit Installation/ft
<5
50.00%
0.00%
$2.00
$25.00
5 - 200
50.00%
50.00%
0.00%
$2.00
$25.00
200 - 650
50.00%
50.00%
0.00%
$2.00
$25.00
650 - 850
50.00%
50.00%
0.00%
$3.00
$25.00
850 - 2550
40.00%
50.00%
10.00%
$3.00
$45.00
2550+
65.00%
5.00%
30.00%
$20.00
$70.00
Pole Spacing, feet
150
Pole Investment
$450.00
Conduit Investment/ft
$1.00
Manhole Investment, per manhole
$3,000.00
Buried Cable Armoring Multiplier
1.10
Reset Defaults
OK
Cancel

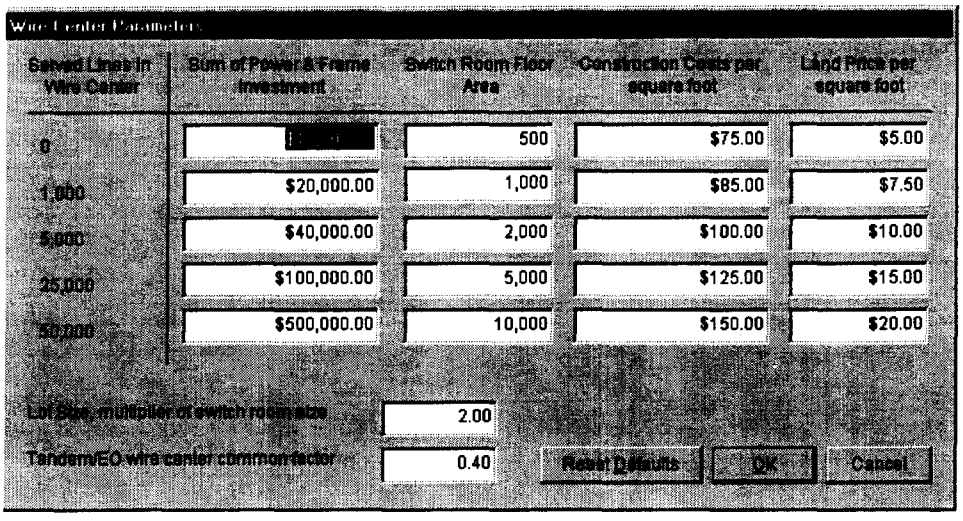

Copper Feeder Structure Inputs
Density Range
Aerial Fraction
Buried Fraction
Underground Fraction
Buried Installation/ft
Conduit Installation/ft
Manhole Spacing, feet
<5
45.00%
5.00%
$2.00
$25.00
800
5 - 200
50.00%
45.00%
5.00%
$2.00
$25.00
800
200 - 650
50.00%
45.00%
5.00%
$2.00
$25.00
800
650 - 850
40.00%
40.00%
20.00%
$3.00
$25.00
800
850 - 2550
10.00%
10.00%
80.00%
$3.00
$45.00
600
2550+
5.00%
5.00%
90.00%
$25.00
$75.00
400
Pole Spacing, feet
150
Pole Investment
$450.00
Conduit Investment/ft
$1.00
Manhole Investment, per manhole
$3,000.00
Buried Cable Armoring Multiplier
1.10
Reset Defaults
OK
Cancel

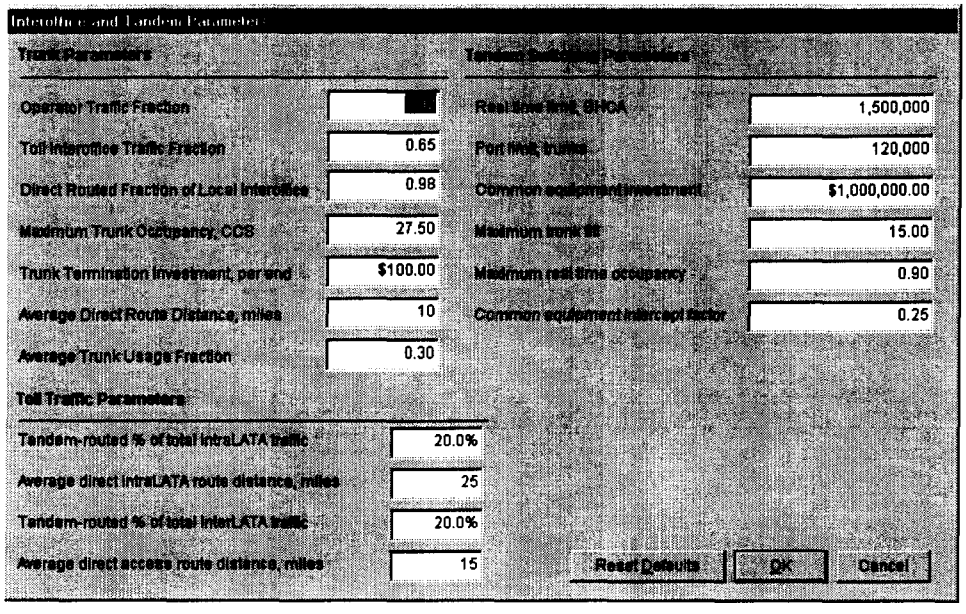

Fiber Feeder Structure Inputs
Density Range
Aerial Fraction
Buried Fraction
Underground Fraction
Buried Installation/ft
Conduit Installation/ft
Manhole Spacing, feet
<5
60.00%
5.00%
$2.00
$25.00
2,000
5 - 200
35.00%
60.00%
5.00%
$2.00
$25.00
2,000
200 - 650
35.00%
60.00%
5.00%
$2.00
$25.00
2,000
650 - 850
20.00%
60.00%
20.00%
$3.00
$25.00
2,000
850 - 2550
10.00%
10.00%
80.00%
$3.00
$45.00
2,000
2550+
5.00%
5.00%
90.00%
$20.00
$70.00
2,000
Pole Spacing, feet
Pole Investment
Conduit Investment/ft
Manhole Investment, per manhole
Buried Cable Armoring Multiplier
0.20
Reset Defaults
OK
Cancel

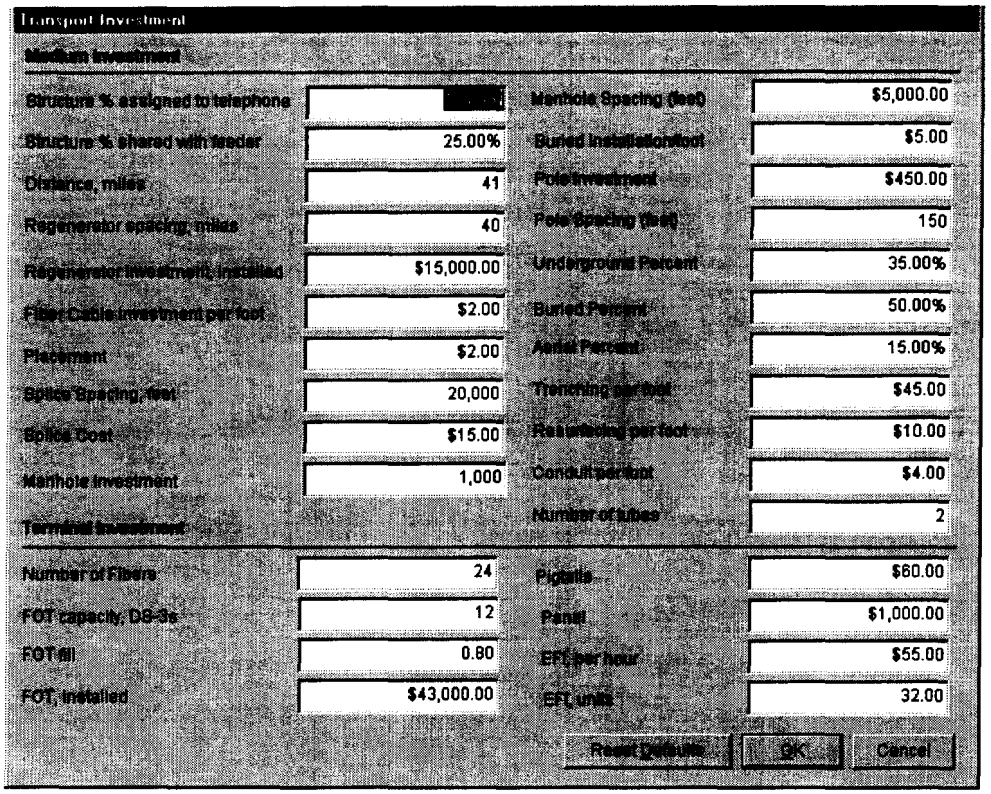

Cable Costs
Feeder Cable Costs
Cable Size
Underground
Aerial
4200
$74.25
3600
$63.75
$63.75
3000
$53.25
$53.25
2400
$42.75
$42.75
1800
$32.25
$32.25
1200
$21.75
$21.75
900
$16.50
$16.50
600
$11.25
$11.25
400
$7.75
$7.75
200
$4.25
$4.25
100
$2.50
$2.50
Distribution Cable Costs
Cable Size
Underground
Aerial
3600
$63.75
$63.75
3000
$53.25
$53.25
2400
$42.75
$42.75
1800
$32.25
$32.25
1200
$21.75
$21.75
900
$16.50
$16.50
600
$11.25
$11.25
400
$7.75
$7.75
200
$4.25
$4.25
100
$2.50
$2.50
50
$1.63
$1.63
25
$1.19
$1.19
Fiber Drop Cable
Cable Size
Underground
Aerial
216
$13.10
$13.10
144
$9.50
$9.50
96
$7.10
$7.10
72
$5.90
$5.90
60
$5.30
$5.30
48
$4.70
$4.70
36
$4.10
$4.10
24
$3.50
$3.50
18
$3.20
$3.20
12
$2.90
$2.90
Reset Defaults
OK
Cancel

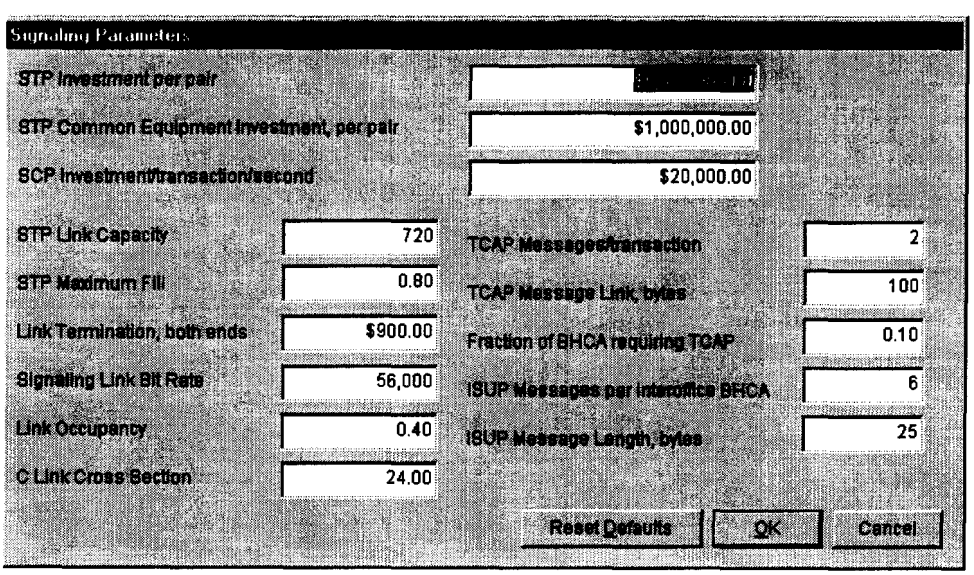

Miscellaneous Loop Investment Inputs
Drop investment per line
NID investment per line
$30.00
Terminal & Splice per line
$35.00
Average lines per business location
4.00
Distribution structure % assigned to telephone
Aerial
33.00%
Buried
33.00%
Underground
33.00%
Feeder structure % assigned to telephone
Aerial
33.00%
Buried
33.00%
Underground
33.00%
SAI Investment, Installed
Distribution Cable Size
Copper
Fiber Feeder
0
$500.00
$2,500.00
100
$700.00
$2,700.00
200
$900.00
$2,900.00
400
$1,100.00
$3,100.00
600
$1,300.00
$3,300.00
900
$1,500.00
$3,500.00
1200
$1,700.00
$3,700.00
1800
$1,900.00
$3,900.00
2400
$2,100.00
$4,100.00
3000
$2,300.00
$4,300.00
3600
$2,500.00
$4,500.00
Help
Reset Defaults
OK
Cancel

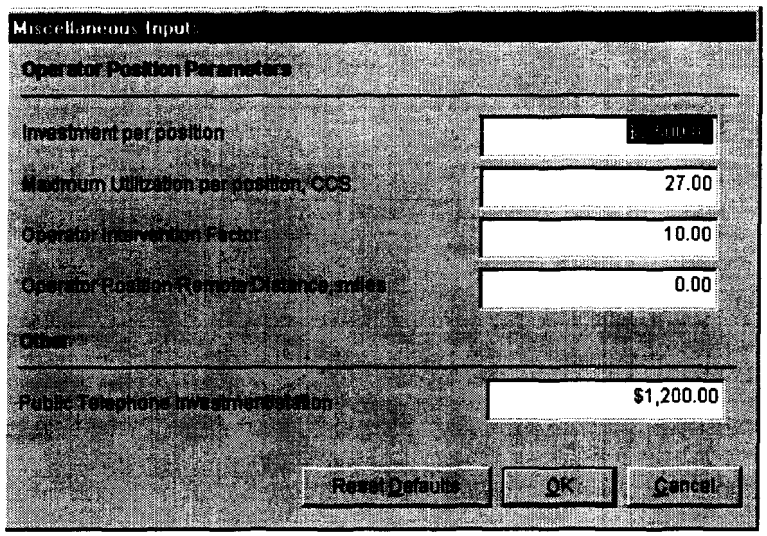

End Office Switching Parameters
Busy hour call attempts, residential
Busy hour call attempts, business
3.50
Switch maximum line fill
0.80
Processor feature loading multiplier
0.90
Switch maximum processor occupancy
1.00
Switch installation multiplier
1.10
Switch maximum line size
100,000
Residential holding time multiplier
1.00
Business holding time multiplier
1.00
Busy hour fraction of daily usage
0.10
Annual to daily usage reduction
270.00
Switch Traffic Limits
Switch Size
BHCA Limit
BHCCS Limit
1 - 1,000
10,000
10,000
1,000 - 10,000
50,000
50,000
10,000 - 40,000
200,000
500,000
40,000+
600,000
1,000,000
Switch Cost Points
Size, lines
Costline
Low line size
2,782
$220.00
Medium line size
11,200
$86.00
High line size
80,000
$59.00
Reset Defaults
OK
Cancel

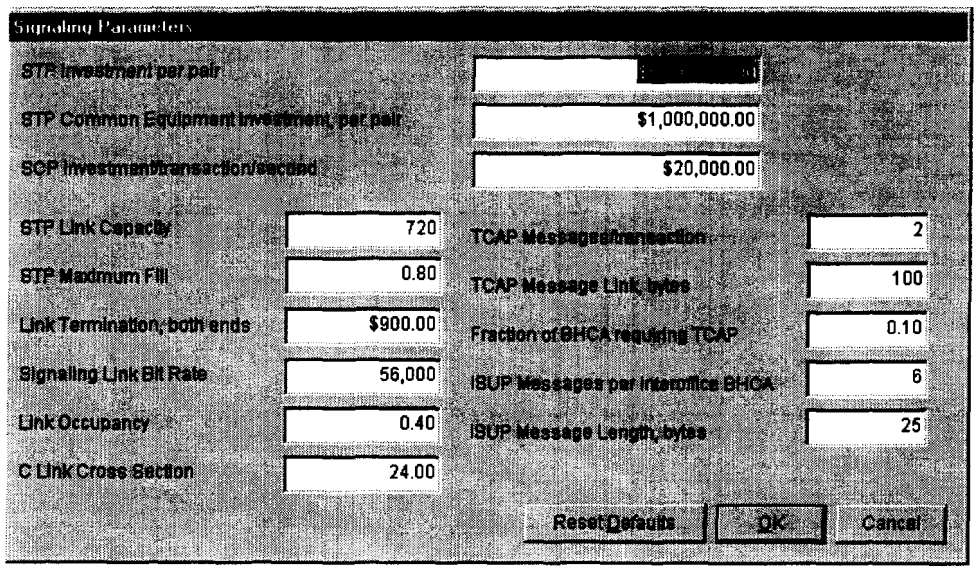

Wire Center Parameters
Served Lines in Wire Center
Sum of Power & Frame Investment
Switch Room Floor Area
Construction Costs per square foot
Land Price per square foot
0
500
$75.00
$5.00
1,000
$20,000.00
1,000
$85.00
$7.50
5,000
$40,000.00
2,000
$100.00
$10.00
25,000
$100,000.00
5,000
$125.00
$15.00
50,000
$500,000.00
10,000
$150.00
$20.00
Lot Size, multiplier of switch room size
2.00
Tandem/EO wire center common factor
0.40
Reset Defaults
OK
Cancel

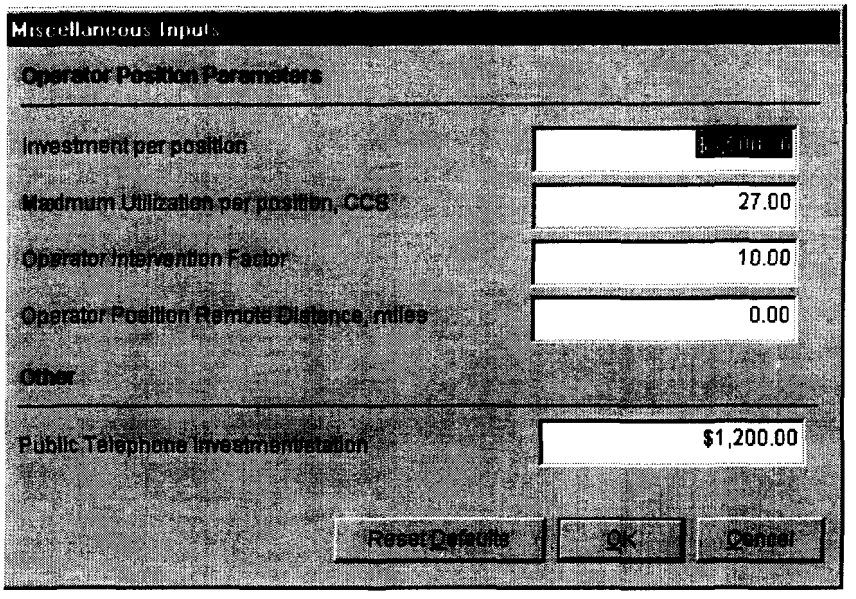

Interoffice and Tandem Parameters
Trunk Parameters
Operator Traffic Fraction
Toll Interoffice Traffic Fraction
0.65
Direct Routed Fraction of Local Interoffice
0.98
Maximum Trunk Occupancy, CCS
27.50
Trunk Termination Investment, per end
$100.00
Average Direct Route Distance, miles
10
Average Trunk Usage Fraction
0.30
Toll Traffic Parameters
Tandem-routed % of total intraLATA traffic
20.0%
Average direct intraLATA route distance, miles
25
Tandem-routed % of total interLATA traffic
20.0%
Average direct access route distance, miles
15
Tandem Switching Parameters
Real time limit, BHCA
1,500,000
Port limit, trunks
120,000
Common equipment investment
$1,000,000.00
Maximum erlangs
15.00
Maximum real time occupancy
0.90
Common equipment intercept factor
0.25
Reset Defaults
OK
Cancel

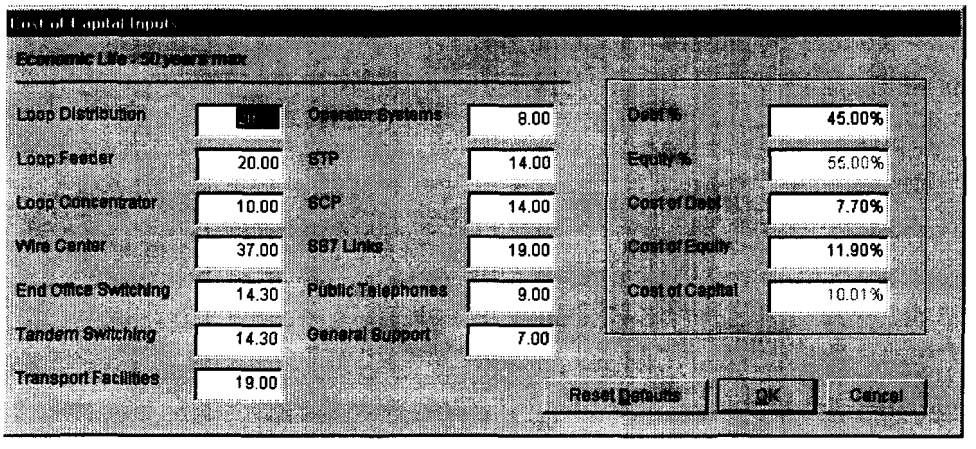

Transport Investment
Medium Investment
Structure % assigned to telephone
Structure % shared with feeder
25.00%
Distance, miles
41
Regenerator spacing, miles
40
Regenerator investment, installed
$15,000.00
Fiber Cable investment per foot
$2.00
Placement
$2.00
Splice Spacing, feet
20,000
Splice Cost
$15.00
Manhole Investment
1,000
Terminal Investment
Manhole Spacing (feet)
$5,000.00
Buried installation/foot
$5.00
Pole investment
$450.00
Pole Spacing (feet)
150
Underground Percent
35.00%
Buried Percent
50.00%
Aerial Percent
15.00%
Trenching per foot
$45.00
Restoration per foot
$10.00
Conduit per foot
$4.00
Number of Fibers
2
Number of Fibers
24
FOT capacity, DS-3s
12
FOT fill
0.80
FOT, installed
$43,000.00
Pigtails
$60.00
Panel
$1,000.00
EFI, per hour
$55.00
EFI units
32.00
Reset Defaults
OK
Cancel

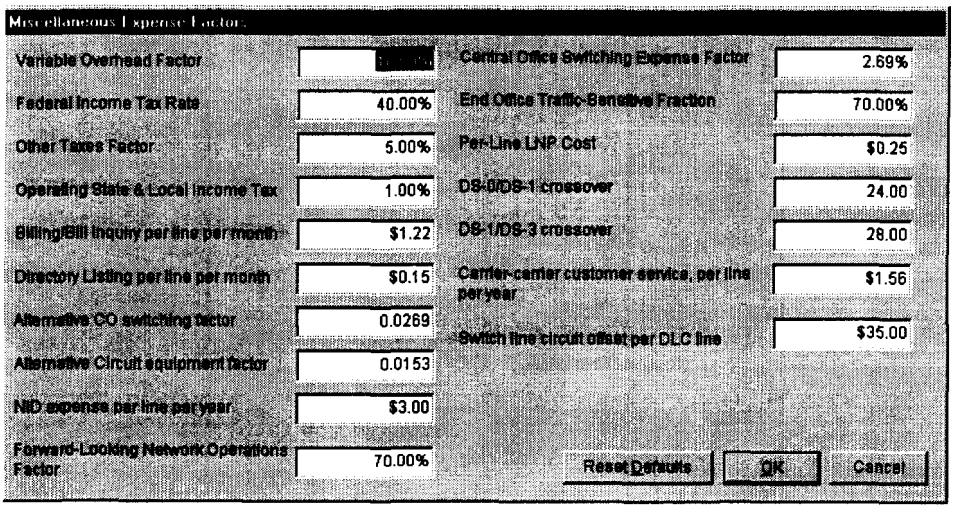

Signaling Parameters
STP Investment per pair
STP Common Equipment Investment, per pair
$1,000,000.00
SCP Investment/transaction/second
$20,000.00
STP Link Capacity
720
STP Maximum Fill
0.80
Link Termination, both ends
$900.00
Signaling Link Bit Rate
56,000
Link Occupancy
0.40
C Link Cross Section
24.00
TCAP Messages/transaction
2
TCAP Message Link, bytes
100
Fraction of BHCA requiring TCAP
0.10
ISUP Messages per interoffice BHCA
6
ISUP Message Length, bytes
25
Reset Defaults
OK
Cancel


Miscellaneous Inputs
Operator Position Parameters
Investment per position
Maximum Utilization per position, CCS
27.00
Operator Intervention Factor
10.00
Operator Position Remote Distance, miles
0.00
Other
Public Telephone Investment/Station
$1,200.00
Reset Defaults
OK
Cancel


Signaling Parameters
STP Investment per pair
STP Common Equipment Investment, per pair
$1,000,000.00
SCP Investment/transaction/second
$20,000.00
STP Link Capacity
720
STP Maximum Fill
0.80
Link Termination, both ends
$900.00
Signaling Link Bit Rate
56,000
Link Occupancy
0.40
C Link Cross Section
24.00
TCAP Messages/transaction
2
TCAP Message Link, bytes
100
Fraction of BHCA requiring TCAP
0.10
ISUP Messages per interoffice BHCA
6
ISUP Message Length, bytes
25
Reset Defaults
OK
Cancel


Miscellaneous Inputs
Operator Position Parameters
Investment per position
Maximum Utilization per position, CCS
27.00
Operator Intervention Factor
10.00
Operator Position Remote Distance, miles
0.00
Other
Public Telephone Investment/station
$1,200.00
Reset Defaults
OK
Cancel


Cost of Capital Inputs
Economic Life - 50 years max
Loop Distribution
Loop Feeder
20.00
Loop Concentrator
10.00
Wire Center
37.00
End Office Switching
14.30
Tandem Switching
14.30
Transport Facilities
19.00
Operator Systems
8.00
STP
14.00
SCP
14.00
SS7 Links
19.00
Public Telephones
9.00
General Support
7.00
Debt %
45.00%
Equity %
55.00%
Cost of Debt
7.70%
Cost of Equity
11.90%
Cost of Capital
10.01%
Reset Defaults
OK
Cancel


Miscellaneous Expense Factors
Variable Overhead Factor
Federal Income Tax Rate
40.00%
Other Taxes Factor
5.00%
Operating State & Local Income Tax
1.00%
Billing/Bill Inquiry per line per month
$1.22
Directory Listing per line per month
$0.15
Alternative CO switching factor
0.0269
Alternative Circuit equipment factor
0.0153
NID expense per line per year
$3.00
Forward-Looking Network Operations Factor
70.00%
Central Office Switching Expense Factor
2.69%
End Office Traffic-Sensitive Fraction
70.00%
Per-Line LNP Cost
$0.25
DS-0/DS-1 crossover
24.00
DS-1/DS-3 crossover
28.00
Carrier-carrier customer service, per line per year
$1.56
Switch line circuit offset per DLC line
$35.00
Reset Defaults
OK
Cancel